

Apple-Works **F** o r u m

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Support for AppleWorks and ///EZ Pieces Users

Spreadsheet Calculation Problems

Dear NAUG,

I use AppleWorks at work and find it very valuable. However, I have a problem with the way the spreadsheet rounds numbers. Everyone else in my office runs Lotus 1-2-3 on IBM-compatible computers and comes up with answers that differ from mine.

I am about to buy an Apple IIGS computer and AppleWorks GS, but my numbers must be accurate. If this same problem occurs with AppleWorks GS, I may have to change to an IBM-compatible system.

Can you help me understand why this problem occurs, if it can be avoided, and if it will occur with AppleWorks GS.

Charles Bertram
Westphalia, Michigan

[Ed: Mr. Bertram has identified two problems with the AppleWorks spreadsheet. First, the program follows the precise rules for mathematical rounding. That is, if X in the number X.5 is even, AppleWorks rounds down. If X is odd, AppleWorks rounds up to the next whole number. While this is the correct rule for rounding, it is not the rule followed by most individuals doing calculations. Most people round X.5 to the next highest number no matter what the value of X. If you follow the popular convention, you risk inaccurate results because of the compounding of errors as you keep rounding to the next highest number. The precise mathematical rule for rounding tries to cancel out errors by rounding numbers down about as often as it rounds numbers up.

Second, AppleWorks uses the SANE number system built into the Apple computer. SANE repre-

sents fractions as binary numbers and cannot accurately represent fractions whose denominators are not a power of two. Instead, it approximates those values. If you multiply approximated values, the results can be quite different from the answers you get when you multiply exact values.

Roger Engle describes these and other spreadsheet computation problems in his series of articles that explain how the AppleWorks spreadsheet handles arithmetic operations. Those articles appeared in the January, August, and October 1987 issues of the AppleWorks Forum. He also describes the following work-arounds that overcome these limitations:

- 1. Use the @INT function instead of the @ROUND function if you do not want to follow the precise mathematical rules for rounding.*
- 2. Write @IF and @LOOKUP statements that test for "tolerance" instead of testing for a precise value. For example, instead of writing @IF(A3=.3,1,0) you should write the formula as @IF(@ABS(A3-.3)<.001,1,0) so slight rounding errors that occur when AppleWorks represents numbers in binary format do not yield inaccurate results.*

Unfortunately, AppleWorks GS also uses Apple's SANE numerical system; its spreadsheet will yield similar inaccuracies.]

The **National AppleWorks Users Group (NAUG)** is an association that supports AppleWorks users. The group provides technical support and information about AppleWorks and enhancements to that program. Our primary means of communicating with members is through the monthly newsletter entitled the **AppleWorks Forum**.

AppleWorks Forum

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Overly Ambitious CompuServe Sales Staff

Dear NAUG,

When I called CompuServe to take advantage of the free introductory offer for NAUG members, I was told I needed to purchase some books to use the system. The CompuServe representative indicated that I needed a CompuServe Users Guide (\$14.95) and a CompuServe Almanac (\$12.95).

According to the December 1988 issue of the *AppleWorks Forum*, this offer is supposed to include everything I need to get started with CompuServe; a CompuServe account, information about how to log onto the system, and \$15 of free CompuServe time. Do I need to purchase the books to use CompuServe?

Larry Dawson
Lincoln, Nebraska

[Ed: This is one of three letters NAUG received describing problems associated with the free CompuServe offer. As a result, we had two NAUG officers call the 800 number and ask for the introductory materials to see if we had a similar experience; we did not. The CompuServe representative took our names and did not try to sell us anything. We received the free kits within a week.]

This offer includes everything you need to get started on CompuServe. The Introductory Guide has the necessary telephone numbers and the steps you follow to log onto CompuServe. Many users believe that CompuServe's menu-driven system makes additional documentation unnecessary.

If you want a good guidebook, my favorite CompuServe resource is How to Get the Most Out of CompuServe (3rd edition) written by Bowen and Peyton and published by Bantam Books. You can purchase this book from local bookstores or directly from CompuServe by giving the command "GO ORDER" at any "!" prompt.

We notified CompuServe that they apparently have an overzealous sales person answering the phone; CompuServe assures us they are trying to resolve this problem.]

Custom QuickSpell Dictionaries

Dear Cathleen,

I recently retired from the U. S. Merchant Marine and, after 46 years at sea, have several projects I want to undertake. One is developing a "navigation lexicon". I estimate it will include about 1,500 nautical terms.

The article entitled "How to Get More from QuickSpell" in the December 1988 issue of the *AppleWorks Forum* suggests that NAUG plans to publish a collection of QuickSpell-compatible custom dictionaries. Would my nautical dictionary be of interest to my fellow NAUG members?

Bruce Condit
Carlisle, Pennsylvania

[Ed: Mr. Condit, with more than 10,000 members in 36 countries, I assume that more than a handful of NAUG's members share your nautical interests. We welcome your dictionary.]

NAUG members have been uncharacteristically slow to respond to the suggestion that we collect a variety of custom dictionaries. Physicists, mathematicians, lawyers, doctors, and other professionals: we await your work. We will announce the availability of public domain custom dictionaries in future issues of the AppleWorks Forum.]

Better Output from Epson Printers

Dear Cathleen,

The December 1988 issue of the *AppleWorks Forum* describes how to use the buttons on the Epson LX series printers to get enhanced output from these units. Many people don't know that you can upgrade older Epson MX printers to get both enhanced output and keyboard access to these different print qualities. The secret is a little-known product called "Dots Perfect" from Dresselhaus Computer Products.

Dots Perfect includes a few chips and a small circuit board you install in your Epson MX printer. Installation is easy; I have no electronics background and installed the kit in less than an hour.

Letters...

Once installed, you press combinations of the "On Line", "Form Feed", and "Line Feed" buttons to invoke different print modes. These include an exceptional near letter quality mode I find particularly attractive.

Dots Perfect costs \$79.95 from Dresselhaus Computer Products, 8560 Vineyard Ave., Suite 405, Rancho Cucamonga, California 91730, (714) 945-5600.

Phyllis Stark-Delph
Santa Rosa, California

Solution for Chinook Disk Drive Problem

Dear Cathleen,

I recently added a Chinook CT-20c disk drive to my Apple IIc system and now have it all; one megabyte of memory, a built-in 5.25-inch disk drive, an external 5.25-inch drive, and the speed and convenience of a hard disk. The Chinook drive makes my IIc a complete system.

I follow NAUG's advice and leave my computer on all the time. However, the Chinook drive has a motor, so I turn it off when I'm away from the system for a long while. Unfortunately, when I turn the Chinook drive off, the external drive comes on ... and stays on until I turn off the computer. I wanted a way to turn off my Chinook drive but still leave my computer on.

I wrote to Chinook and received a prompt reply. They suggest that this problem is inherent in the design of the CT-20c, and offer the following three work-arounds:

1. Leave the CT-20c on all the time. Chinook claims the drive is designed to be on for extended periods of time.
2. Use the backup utility on the EasyDrive software that comes with the CT-20c to back up the RAM disk onto the hard drive. Then shut off the computer. Use the Restore program to reload everything onto the RAM disk when powering up the system.

3. Stop using the second 5.25-inch drive; you rarely need it when you have a hard disk.

In addition, Chinook includes this useful reminder: Never attach or disconnect a disk drive to an Apple IIc, IIc Plus, or IIGs while the computer is on.

John Wilkinson, III
Cockeysville, Maryland

[Ed: NAUG has a Chinook CT-20c we use with an Apple IIc; we are impressed with both the quality and functionality of the unit. We leave our drive on all the time and so far have not experienced any reliability problems.]

How to Manage More Than 30 TimeOut Modules

Dear NAUG:

Last month's issue of the *AppleWorks Forum* includes a letter by Jay Stock asking how to display more than 30 TimeOut modules on the TimeOut Menu. Your response to that letter is correct, but incomplete. First, users should note that you must have TimeOut version 2.0 or later to use more than 30 TimeOut modules. Second, you cannot simply press the Tab Key to view the extra TimeOut modules; you must do some preliminary work to manually create a second TimeOut Menu, which you can access with the Tab Key.

Follow these steps if you have more than 30 modules:

1. Use TimeOut FileMaster, Copy II+, or the System Disk that came with your Apple to create a second TimeOut subdirectory on your TimeOut Applications Disk or hard disk. *[Ed: See the article entitled "How to Get Started with TimeOut" in the February 1988 issue of the AppleWorks Forum for help setting up a TimeOut Applications Disk.]* Copy the TimeOut files you want to appear on the second TimeOut Menu into that subdirectory. Make certain that the TimeOut Utilities module remains in the first TimeOut subdirectory.
2. Start your TimeOut-enhanced copy of AppleWorks. When the program finishes loading, press Open-Apple-Escape and select "Utilities"

Letters...

from the TimeOut Menu.

3. Select choice #7, "Add Applications", from the Utilities Menu.
4. Select ProDOS pathname and specify the location of the new TimeOut subdirectory. [Ed: For more information about pathnames, see the article entitled "What AppleWorks Users Should Know about ProDOS Pathnames" in the *AppleWorks Handbook: Volume One*.]

TimeOut will load your remaining modules into memory and you can now use the Tab Key to display the second TimeOut Menu.

Unless you have TimeOut UltraMacros, you must repeat these steps each time you boot AppleWorks. If you have UltraMacros, you can avoid these repetitive steps by entering Mark Munz's Autoload Macro, which appeared in the August 1988 issue of the *AppleWorks Forum*.

Chuck Newby
San Diego, California

AppleWorks GS Review Will Interest NAUG Members

Dear NAUG:

In your February issue, you comment on *A+ Magazine's* "review" of AppleWorks GS. Just to clarify, the article that appeared in our January 1989 issue was labeled a "product preview", not a review.

After testing the product for some time (and discovering many of the the same problems you observed), the editors of *A+* decided they wanted more time to write a comprehensive and responsible evaluation of this complex product.

Our full-fledged review will appear in the April 1989 issue of *A+*. I think NAUG members will find that our critical assessment of AppleWorks GS pulls no punches and gives a clear-eyed rundown on the benefits and liabilities of the program.

Bob Lindstrom
Editor, *A+ Magazine*



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In a perfect world a program like RepairWorks wouldn't be necessary. Unfortunately the world isn't perfect and for those of us who have peered tearfully into a monitor filled with the dying gasps of our precious work it can seem almost evil. Don't despair! Repairworks can soften the blow of cruel fate when it involves your AppleWorks files. RepairWorks will examine your files and surgically remove the offending problems thus greatly reducing or eliminating the work of totally recreating your file.

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EuroWorks: A Better Way to Print Foreign Languages with AppleWorks

by Richard Melpignano

Savez-vous qu'AppleWorks, jumelé avec EuroWorks, vous permet maintenant d'imprimer quatre langues étrangères?

Readers of the *AppleWorks Forum* know that there are many ways to get foreign language output from AppleWorks. Three popular methods include: (a) using a fine-line black ball point pen to write in the diacritical marks (Is that heresy to an AppleWorks user?), (b) using TimeOut SuperFonts to print special characters, and (c) installing a custom printer with the codes that print accents in the areas usually reserved for the underline, subscript, superscript, and boldface commands. [Ed: These techniques are described in the May and October 1988 issues of the *AppleWorks Forum*.]

Now AppleWorks users who want to produce foreign characters in word processor documents have an attractive new alternative: EuroWorks.

Functionality

EuroWorks produces output in four foreign languages: French, Spanish, German, and Italian. You install EuroWorks on a working copy of AppleWorks and type your documents normally, except you enter accent marks immediately after the letter over which they should appear. You type an asterisk if there is no keyboard equivalent of the character you want to enter. For example, you type “*?Es bonita la nin~a?” to get the printed output “¿Es bonita la niña?”. When you issue a Both-Apple-P command, EuroWorks prints the output in the language you specify. EuroWorks even enhances your English language documents by adding eight char-

acters that are not available in the standard version of AppleWorks (£, \$, °, ¢, ≠, ≤, ≥, and ±).

EuroWorks consists of a collection of complex macros that use the foreign language character set built into your printer to produce the foreign language output. The disk includes two versions of the program. One assumes you have TimeOut Ultra-Macros; the other does not require that popular AppleWorks enhancement.

The quality of the printing is comparable to your normal printouts. *Figure 1* contains a sample of EuroWorks output from an ImageWriter II set to Near Letter Quality mode. I find this output attractive; printouts from other printers supported by the program are of even higher quality.

Hardware and Software Compatibility

EuroWorks requires the USA edition of AppleWorks 2.0 or 2.1. It is compatible with most popular AppleWorks enhancements, including the TimeOut modules, the Applied Engineering and Checkmate Technology desktop expansion programs, and the PathFinder, PatchMania, and Late Nite Patches enhancements from JEM Software. EuroWorks is not compatible with AutoWorks, MacroWorks, Super MacroWorks, SpeechWorks, or with the Pinpoint Desk Accessories.

EuroWorks is compatible with any Apple or Apple clone capable of running AppleWorks 2.0 or 2.1; you need no extra hardware to use the program. The current version of EuroWorks supports seven printers: the ImageWriter, ImageWriter II, Apple Scribe, Apple Dot Matrix Printer, Mannesmann

Figure 1: EuroWorks Output - ImageWriter II

Savez-vous que AppleWorks, jumelé avec EuroWorks, vous permet maintenant d'imprimer quatre langues étrangères?	9 cpi
Savez-vous que AppleWorks, jumelé avec EuroWorks, vous permet maintenant d'imprimer quatre langues étrangères?	10 cpi
Savez-vous que AppleWorks, jumelé avec EuroWorks, vous permet maintenant d'imprimer quatre langues étrangères?	12 cpi
Savez-vous que AppleWorks, jumelé avec EuroWorks, vous permet maintenant d'imprimer quatre langues étrangères?	15 cpi

Tally MT85 or 86 printers equipped with the Apple ImageWriter Interface Module; and the Seikosha SP-1000AP. There is no way for users to add printers to the program; if you do not have one of these seven devices, you cannot use EuroWorks. However, the program's author indicates that EuroWorks will support additional printers in the future. Note that the popular Epson and Epson-compatible printers do *not* work with the current version of the program.

Documentation and Ease of Use

The documentation consists of approximately 40 pages of text in AppleWorks word processor files on the back of the program disk. The documentation is well written and easy to follow. While I prefer a printed manual, the on-disk format lets the publisher reduce the price of the product and insures that updated documentation accompanies each copy of the program. The author also supplies numerous sample files that help you explore EuroWorks.

I believe that all but the most novice AppleWorks user will be comfortable installing EuroWorks. The installation process is easy, and is adequately explained in the well written documentation. It took me approximately 30 minutes to install EuroWorks and numerous other enhancements on a working copy of AppleWorks.

Once installed, EuroWorks is easy to use. Generally, you type the character you want followed by the appropriate accent mark. For example, you type e' to produce the character é. If the diacritical or punctuation mark is not available on the keyboard (e.g., the

inverted question mark used in Spanish) you type an asterisk and EuroWorks inserts the correct character when you print. When you are done entering text, hold down both the Solid-Apple and Open-Apple Keys and press the letter P. EuroWorks asks which language you want, and prints the output. The program printed every foreign language character I needed, with two exceptions: The program cannot

print the European quotation-mark characters « and », or the concatenated French "œ".

Most users will find EuroWorks easier to use than other approaches to printing foreign language characters. For example, you can generate foreign characters with TimeOut SuperFonts, but you must enter obscure sets of keystrokes to produce that output. (SuperFonts requires nine keystrokes (<x2>N<x1>) to produce the accented letter e, as opposed to only two keystrokes required by EuroWorks.) In addition, the extra characters make the SuperFonts screen almost incomprehensible to all but the most advanced SuperFonts user. The EuroWorks screen does not match the final output, but it is easier to read and edit than the corresponding screen from SuperFonts.

Limitations of EuroWorks

While EuroWorks adds most of the features you will need to produce attractive foreign language documents, users should recognize that it does not turn AppleWorks into a full-fledged foreign language word processor. The program has the following limitations:

1. EuroWorks does not support Epson printers.
2. EuroWorks only accommodates continuous-feed paper; there is no allowance for single sheets of paper. (Using the Pause Each Page Command on the Options Menu or setting the "Stop at the end of each page" command to "Yes" deactivates EuroWorks after it prints a single page.)

3. EuroWorks does not display the foreign characters on the screen. This is a problem shared by all attempts to represent foreign characters in the USA version of AppleWorks, but EuroWorks does a reasonable job of working within this limitation. *[Ed: See the May 1988 issue of the AppleWorks Forum for information about the foreign language versions of AppleWorks.]*
4. The accent mark is placed too far to the right over lower-case letters when you print at 4, 5, 6, 7, and 8 characters per inch in French, Italian, and Spanish on an ImageWriter II. The program prints correctly at all other settings on the ImageWriter II and on the other printers it supports. This is a limitation of the ImageWriter II, not of EuroWorks, and the documentation warns you of this problem.
5. If you have a standard Apple IIe, IIC, or Laser 128, the program slows down your output. Working on a Laser 128, it took EuroWorks approximately one minute to prepare each page of single-spaced French text for printing. You can then print an unlimited number of copies of a document without reprocessing the file. However, EuroWorks does not save the processed version of the document on your disk. You must expect the same one-minute-per-page of processing time if you return to the AppleWorks desktop and then want to reprint the document.

These processing times are significantly reduced if you have an Apple IIGS, IIC Plus, or an accelerated IIe or IIC. For example, it took a IIGS and a Zip Chip-equipped Apple IIC approximately 20 seconds to process each page of French text. The other languages all print faster than French. If you work on a standard IIe, IIC, or Laser, be prepared to wait while EuroWorks processes any lengthy documents. If you use a faster computer, you will probably be satisfied with the speed of this program.

Overall, I find these limitations minor given that EuroWorks is an inexpensive, easy-to-use

enhancement that adds significant printing capability to AppleWorks.

Value

EuroWorks costs \$20 for any one language, \$30 for all four languages. The program is an excellent value.

Conclusion

EuroWorks is an inexpensive, easy-to-use program that adds foreign language support to the English language version of AppleWorks. I believe that given its intended purpose, its ease of use, and its attractive price, EuroWorks should be considered by anyone who wants to obtain foreign language output from AppleWorks. ■

[EuroWorks is available from The S.A. AuTear Company, Box 7459, Beaverton, Oregon 97007 (503) 645-2306. Version 1.3 is current.]

[Dr. Richard Melpignano is Foreign Language Coordinator at Holliston (MA) High School.]

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An Introduction to AppleWorks and Hard Disk Drives

by Gary R. Morrison

This is the first in a series of articles that describe how to use AppleWorks with a hard disk drive system. This month, Dr. Morrison describes the advantages and disadvantages of using a hard disk drive. In future articles, he describes how to configure a hard disk for use with AppleWorks.

You have undoubtedly invested a significant amount of money in your Apple II computer system. Now, as your computer needs grow, you can add additional memory and other accessories to increase the speed and power of your computer, and make your system easier to use.

In this series of articles, I will discuss an increasingly popular expansion product you should consider for your computer: a hard disk drive system. I will start by answering three of the most frequently asked questions about hard disks:

1. What is a hard disk drive system?
2. What benefits does a hard disk offer the AppleWorks user?
3. What are the disadvantages of adding a hard disk to your computer?

What Is a Hard Disk Drive System?

A hard disk drive system has three major components: the disk drive, the disk drive controller, and the cable. The hard disk drive consists of one or more aluminum platters enclosed in a special container to prevent environmental contamination. Each platter is coated with an oxide material similar to that on a floppy disk. The disk rotates at high speed within this container, and a read/write head floats just above the surface of the disk, riding on a cushion of air generated by the rapid spinning of the disk.

The disk drive controller is a card that serves as an interface between an Apple IIe or IIGS computer and the hard disk drive. Most often the controller

card goes into slot #7 in the computer. (I will discuss installation procedures in the next article in this series.) Since there is no slot to accommodate a controller card in the Apple IIc, the few hard disk drives available for the IIc put the controller card in the same case that houses the disk drive unit.

Hard disk drives use custom cables. The appropriate cable and disk controller card are usually provided with the hard disk system, but be certain to ask the vendor whether or not the controller and cable is included in the quoted price. These items can add significantly to the cost of the system.

Most hard disk systems for Apple computers are "external drives" designed to be free-standing units that sit on the desk next to the computer. At least one company manufactures an "internal drive" that mounts in the Apple II case, but internal drives are less popular than external systems. Most modern external drives are about the size (but somewhat deeper) than Apple's original 5.25-inch floppy disk drive.

Advantages of a Hard Disk Drive System

There are two reasons to add a hard disk to your computer: speed and convenience.

Speed: Hard disk drives are fast. The disk rotates more quickly than a floppy disk and the data is packed tightly together on a hard disk. As a result, hard disks generally operate three to four times faster than floppy disks. For example, an 85K word processor file that takes 47 seconds to load from a 5.25-inch disk and 38 seconds to load from a 3.5-

Expanded Memory, 3.5-inch Disks, and Hard Disks: Which Are for You?

Upgrading your Apple II computer provides both an exciting and frustrating opportunity. What do you add first: expanded memory; a 3.5-inch drive; or a hard disk? While you would probably like all three, life is replete with these difficult choices.

Here is some background to help you choose between these alternatives:

Expanded memory: Since your AppleWorks desktop space is determined by the amount of memory in your computer, the only way to work with larger files is to expand the memory in your computer. If your data files are too large to fit on the AppleWorks desktop, you should start by buying additional memory. In addition, a memory expansion card speeds up AppleWorks and the TimeOut accessories. Serious AppleWorks users should have at least 512K of RAM in their computer, although many users consider one megabyte of RAM to be a practical minimum.

However, memory expansion cards have two disadvantages:

1. Data and programs stored on these cards are "volatile". Unless you have a battery backup, these files disappear each time you turn off your computer.
2. These cards are expensive per megabyte of memory. A one-megabyte memory expansion card costs approximately \$500 from discount vendors.

3.5-inch Disks: Each small, plastic-encased 3.5-inch disk stores as much data as almost six 5.25-inch floppy disks. You can store your programs and files on these high-capacity disks and thus reduce the need for disk swapping. 3.5-inch disks are particularly convenient since you can store AppleWorks and the TimeOut enhancements on a single 3.5-inch disk.

However, there are three disadvantages to using 3.5-inch disks:

1. These disks are only marginally faster than 5.25-inch disks.
2. 3.5-inch disk drives are expensive; each Apple-brand 3.5-inch drive costs approximately \$375 at discount vendors.
3. You are limited to only 51 files per disk unless you learn about pathnames and subdirectories. Thus, you add much of the complexity of a hard disk system without the speed and storage capacity benefits that accompany a hard disk.

Hard Disks: Hard disk systems let you store numerous large programs and data files on a single disk. As described in the accompanying article, these systems are fast and convenient. However, hard disks are expensive and add complexity to your system. Hard disk systems are a recommended upgrade path once you have sufficient memory in your computer to accommodate the files you need on your AppleWorks desktop.

inch disk, takes only 11 seconds to load from a hard disk system.

Since you can store both programs and data on a hard disk, these same speed increases are evident when you load AppleWorks into your computer. For example, it takes eight seconds for AppleWorks to boot up and load onto a one-megabyte memory card from a hard disk; it takes 27 seconds to accomplish the same startup process from a 3.5-inch disk and 35 seconds plus one disk swap to boot AppleWorks from a 5.25-inch floppy disk.

Convenience: A single hard disk drive can store the equivalent of an entire collection of floppy

disks. For example, a 20-megabyte drive can store as much as information as 144 5.25-inch floppy disks or 25 3.5-inch disks. You can copy your programs and data from all your floppy disks onto the hard disk and you will not have to change disks when you work. In addition, you no longer need to segment large files on different floppy disks; hard disks have the capacity to store dozens of large AppleWorks data files.

Disadvantages of Using a Hard Disk Drive

Advocates of hard disk drives would have you believe they are the answer to every AppleWorks

owner's dream, but there are at least three disadvantages to using a hard disk system:

1. Hard disk drives are expensive. Plan on spending at least \$600 for a 20-megabyte hard disk drive; \$850 for a 40-megabyte system.
2. Hard disks keep all your data and programs on a single device. If that disk fails, you can lose all your files on that drive. You must plan on making floppy-disk copies of the files on your hard disk drive (a procedure called "backing up your hard disk").
3. Hard disk drives add complexity to your system. While most hard disk drives are extremely reliable, the hardware is sophisticated and does occasionally fail. In addition, you have to organize your files into subdirectories on a hard disk. You must learn about pathnames and subdirectories to manage those files. I will cover these topics in future articles in this series.

Conclusion

Just like air conditioning, automatic transmissions, and microwave ovens, few people *need* a hard disk drive system. However, this accessory adds so much speed and convenience to your computer that most hard disk users find it difficult to imagine how anyone can be happy using floppy disks. You can configure your hard disk drive to boot AppleWorks automatically and load all your TimeOut accessories. Then you can access your data files without ever changing a disk. In addition, all disk operations are three to four times faster than on a standard floppy disk-based system.

I suggest you not try someone's hard disk drive-equipped computer unless you are prepared to buy that valuable accessory. Once you try one, you will find it difficult to revert back to floppy disks.

Next month I will describe how to choose between the different available hard disk drive systems and how to connect the hard disk drive to your Apple.

[Dr. Gary R. Morrison is an Associate Professor at Memphis State University. He is the author of the book "ProDOS 8 and 16", RepairWorks, and numerous other articles and software.]

Clariss Restricts Technical Support

Clariss Corporation recently announced that the company will limit its technical support to registered users of its products. The company no longer provides technical assistance to owners of Apple-packaged versions of AppleWorks or to unregistered AppleWorks users.

Are You a Clariss Registered User?

You are a Clariss Registered User and qualify for Clariss technical support if you: (a) returned the Registration Card included with all Clariss-packaged versions of AppleWorks and AppleWorks GS, or (b) upgraded from an earlier version of AppleWorks to either AppleWorks 2.1 or AppleWorks GS.

You are not a Clariss Registered User if you purchased an Apple-packaged version of AppleWorks (even if you returned the registration card to Apple Computer) or if you did not purchase the program.

How to Become a Clariss Registered User

There are two ways to register with Clariss:

1. Submit the registration form that came with your Clariss-packaged copy of AppleWorks or AppleWorks GS.
2. Upgrade to AppleWorks 2.1 or to AppleWorks GS. Upgrade costs are as follows:

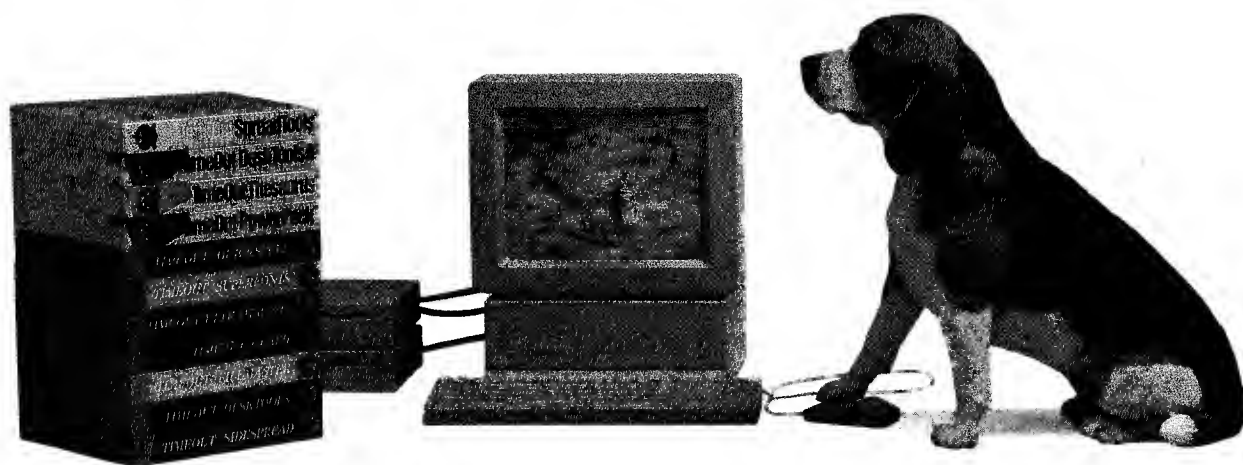
AppleWorks 2.x	→	AppleWorks GS	\$ 99
AppleWorks 2.0	→	AppleWorks 2.1	Free
AppleWorks 1.x	→	AppleWorks GS	169
AppleWorks 1.x	→	AppleWorks 2.1	75

Note that if you own AppleWorks 2.0, the upgrade to version 2.1 is free.

NAUG members can initiate the upgrade process by calling the Clariss Distribution Center at (800) 544-8554 from 8:30 a.m. through 5:30 p.m. Pacific Time, Monday through Friday.

NAUG recommends that members upgrade to the current version of AppleWorks and register with Clariss. Clariss Registered Users qualify for free technical support, receive a bi-monthly Clariss newsletter, and qualify for future discount offers.

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An Introduction to Branching

by Mark Munz

This is the seventh in a series of articles about TimeOut UltraMacros. This month, Mr. Munz describes how to create macros that can make decisions based on user input. He assumes you know the concepts introduced in the earlier articles in this series.

If you are keeping up with the articles in this series, you know two ways to prepare an UltraMacros macro: By capturing your keystrokes or by using the appropriate tokens to write a macro in the AppleWorks word processor. Until now, the macros you wrote were “linear”; they proceed in a step-by-step fashion and do not react when the situation changes. For example, if you use last month’s auto-backup macro with a disk that is full, AppleWorks stops and issues a warning about the status of the disk. However, the macro does not recognize this condition and issues commands that are inappropriate for this unanticipated situation.

This month I will introduce the concept of “intelligent” macros; macros that “branch”, depending upon your response to a question. By the end of this article, you will know how to use the <getstr>, <key>, <if>, and <goto> commands to control a macro. I will build upon these techniques in future articles in this series.

Two Sample Macros

Figure 1 contains two macros that automatically save a copy of an AppleWorks file on a backup disk. The macro in Figure 1A is the Solid-Apple-S macro we wrote last month. This macro instructs the user to insert a backup disk and then saves a copy of the current AppleWorks file onto that disk.

The macro in Figure 1B is similar, but adds “branching” capability to the Solid-Apple-S macro. The branching macro asks you a question, accepts your input, and makes a decision based on your response.

I suggest you enter, compile, and run the macro in Figure 1B. [Ed: See the November 1988 Macro

Figure 1A: Auto-Backup Macro

```
start
<ctrl-S>:<all : oa-S : bell :
msg ' Insert your backup disk and press any key ' :
key : oa-S : bell :
msg ' Replace your original disk and press any key ' :
key : msg '>!
```

Figure 1B: Enhanced Macro

```
start
<ctrl-S>:<all : oa-S :bell :
msg "File is saved. Do you want a backup also? (y/n)" :
$1 = getstr 1 : msg "" :
if $1 = "n" then stop : elseoff :
msg ' Insert your backup disk and press a key ' :
key : oa-S : bell :
msg ' Replace your original disk and press a key ' :
key : msg '>!
```

Primer article for step-by-step directions on how to enter, compile, and run a macro.]

The <getstr> Command

The first line of the Solid-Apple-Control-S macro in Figure 1B uses the <msg> (message) command I described in last month’s Macro Primer.

The second line, \$1 = getstr 1, contains two new UltraMacros tokens, <getstr> and \$1. (<getstr> is an abbreviation for “Get String”. In the lexicon of computer users, a “string” is any series of characters you can type at the keyboard. For example, “Hello” is a string composed of the characters “H”, “e”, “l”, “l”, and “o”. “X” is a string composed of the character “X”.)

The <getstr> command instructs UltraMacros to wait for an entry made by the user and to “capture” that text. The text is not sent to AppleWorks. (Last

Figure 2: Macro Segmented for More Complex Branching

```
start
<ctrl-s>:<all : oa-s : bell :
  msg ' File is saved. Do you want a backup? (y/n) ' :
  goto ba-1>!

<ba-1>:<all : $1 = getstr 1 : msg '' :
  if $1 = "N" then stop : elseoff :
  if $1 = "n" then stop : elseoff :
  if $1 = "Y" then goto ba-2 : elseoff :
  if $1 = "y" then goto ba-2 : elseoff :
  bell : bell :
  msg ' Press Y to back up your file; N to cancel. ' :
  goto ba-1>!

<ba-2>:<all :
  msg ' Insert your backup disk and press any key ' :
  key : oa-S : bell :
  msg ' Replace your original disk and press any key ' :
  key : msg '>!'
```

month, I introduced the <input> command. Unlike <getstr>, responses to the <input> command are sent directly to AppleWorks and are not used by UltraMacros.)

When you run this macro, the <getstr> command replaces the bottom line on the AppleWorks screen with a ">" symbol, indicating that UltraMacros is waiting for an entry. When the user presses the Return Key, the standard AppleWorks message reappears.

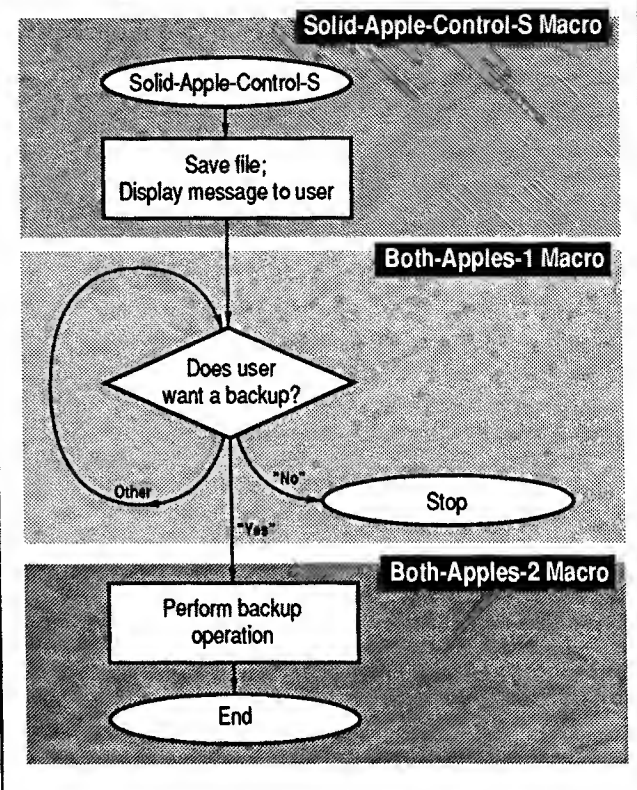
The <getstr> command can accept up to 60 characters of text. The number following the token tells UltraMacros the maximum number of characters it should accept. In our example, the user is supposed to type a single letter ("y" or "n"), so the correct format is "getstr 1".

How to Store User Responses

The statement \$1 = getstr 1 tells UltraMacros to store the user's response in a location called "\$1". Whatever the user types in response to the <getstr> command is placed in the location named \$1 (described as "String One"). You can then refer to location \$1 to retrieve that information. For example, the command <print \$1> prints the string stored in location \$1.

UltraMacros has 10 storage locations for text information called \$0, \$1, \$2, and so on, up to \$9.

Figure 3: Branching Flowchart



The next line in the macro, if \$1 = "n" then stop : elseoff, tells UltraMacros to check if the value stored in location \$1 is the lower case letter "n". If \$1 contains an "n", the instruction tells UltraMacros to stop this macro. If it is anything other than an "n", the macro continues uninterrupted.

This line contains an "<if> statement". In its simplest form, an <if> statement has four parts: the word "if", an expression, an outcome, and the word "elseoff". The "outcome" occurs only if the expression is true. In this example, if the location labeled \$1 holds the character "n", the macro stops. If the location contains any other letter (including a capital "N") the macro continues and begins the backup procedure.

The token <elseoff> signifies the end of an <if> expression. In this example, the role of the <elseoff> token is not immediately apparent because we are using the simplest form of the <if> expression. The function of <elseoff> will become more appar-

Figure 4: Macros Using the Key Command

```
start
<ctrl-s>:<all : oa-s :bell :
  msg "File is saved. Do you want to make a backup? (Y/N/Escape)" :
  goto ba-1>!

<ba-1>:<all : K = key : msg "" :
  if K = 27 then stop : elseoff :           {Was Escape pressed?}
  if K = 78 then stop : elseoff :           {Was upper-case N pressed?}
  if K = 110 then stop : elseoff :          {Was lower-case N pressed?}
  if K = 89 then goto ba-2 : elseoff :      {Was upper-case Y pressed?}
  if K = 121 then goto ba-2 : elseoff :     {Was lower-case Y pressed?}
  bell : bell :
  msg ' Press Y to make a backup of your file; N or Escape to cancel. ' :
  goto ba-1>!

<ba-2>:<all :
  msg ' Insert your backup disk and press any key ' :
  key : oa-S : bell :
  msg ' Replace your original disk and press any key ' :
  key : msg ''>!
```

There are two reasons I segmented these macros. First, the <goto> command must always refer to a macro. If you use a <goto> command, you will have to segment your macro. Second, there are essentially three tasks in this process. It is easier to conceptualize and write a program if you put each separate task in a different macro.

The command \$1 = getstr 1 : msg '' in macro Both-Apples-1 accepts a one-letter input from the user, stores that entry in location \$1 and cancels the display of the

ent as we write more complex <if> statements later in this series of articles. For now, remember to follow every <if> statement with the token <elseoff>.

A More Sophisticated Approach

Just as there are many ways to complete a task in AppleWorks, there are an infinite number of ways to approach a problem with UltraMacros. *Figure 2* contains a set of three linked macros that demonstrate a more sophisticated approach to automating the process of saving an AppleWorks file on a backup disk. These macros examine the user's response to the <getstr> command. If the user enters an "N" or "n", the macro stops. If the user enters a "Y" or "y", the backup procedure continues. If the user makes any other entry, the macro displays the message "Press Y to back up your file; N to cancel" and allows the user to enter a correct keystroke.

Figure 3 contains a flowchart that explains the logic of this macro.

As you can see from *Figure 3*, this macro has three "branches". The first macro, Solid-Apple-Control-S, saves the original file and displays the question about continuing with the backup process. Then macro Solid-Apple-Control-S calls the second macro, Both-Apples-1.

earlier message. Then the macro tests the contents of location \$1. If \$1 contains an "N" or "n" the macro stops. If \$1 contains a "Y" or "y", macro Both-Apples-1 turns over control to the macro Both-Apple-2. If \$1 does not contain an "N", "n", "Y", or "y", the macro Both-Apples-1 continues. It sounds the bell twice, displays the message "Press Y to make a backup of your file; N or Escape to cancel" and starts itself again, awaiting user input in response to the <getstr> command.

The <goto> Command

Note the use of the <goto> command in the Both-Apples-1 macro in *Figure 2*. The combination of the <if> statement and the <goto> command gives UltraMacros the branching capability that provides much of the power in this programming language. We will use these statements regularly when we write more powerful AppleWorks macros in future articles in this series.

The <key> Command

While the <getstr> command is easy to understand and is suitable for longer text entries, it is not the best way to accept the single keystroke response required in this macro.

Every key combination available on the Apple keyboard has a unique numeric value, and Ultra-

Figure 5: ASCII Values for All Keystroke Combinations

This table presents the ASCII value of all 256 key combinations recognized by UltraMacros. The first number in every row is the ASCII value of the key combination listed. For example, the lowercase letter "a" has a value of 97. The number in parenthesis is the ASCII value if the Open Apple Key is also pressed. For example, Open-Apple-a returns the value 225. The Return Key, Tab Key, and several other keys generate the same value as certain Control characters. For example, the chart indicates that pressing Control-[is equivalent to pressing the Escape Key.

0 (128) ctrl-@	19 (147) ctrl-S	38 (166) &	69 (197) E	100 (228) d
1 (129) ctrl-A	20 (148) ctrl-T	39 (167) '	70 (198) F	101 (229) e
2 (130) ctrl-B	21 (149) ctrl-U (Right)	40 (168) (71 (199) G	101 (229) f
3 (131) ctrl-C	22 (150) ctrl-V	41 (169))	72 (200) H	103 (231) g
4 (132) ctrl-D	23 (151) ctrl-W	42 (170) *	73 (201) I	104 (232) h
5 (133) ctrl-E	24 (152) ctrl-X (Clear)	43 (171) +	74 (202) J	105 (233) i
6 (134) ctrl-F	25 (153) ctrl-Y	44 (172) ,	75 (203) K	106 (234) j
7 (135) ctrl-G	26 (154) ctrl-Z	45 (173) -	76 (204) L	107 (235) k
8 (136) ctrl-H (Left)	27 (155) ctrl-[(Escape)	46 (174) 0	77 (205) M	108 (236) l
9 (137) ctrl-I (Tab)	28 (156) ctrl-\	47 (175) /	78 (206) N	109 (237) m
10 (138) ctrl-J (Down)	29 (157) ctrl-]	48 (176) 0	79 (207) O	110 (238) n
11 (139) ctrl-K (Up)	30 (158) ctrl-^	49 (177) 1	80 (208) P	111 (239) o
12 (140) ctrl-L	31 (159) ctrl-_	50 (178) 2	81 (209) Q	112 (240) p
13 (141) ctrl-M (Return)	32 (160) Space	51 (179) 3	82 (210) R	113 (241) q
14 (142) ctrl-N	33 (161) !	52 (180) 4	83 (211) S	114 (242) r
15 (143) ctrl-O	34 (162) "	53 (181) 5	84 (212) T	115 (243) s
16 (144) ctrl-P	35 (163) #	54 (182) 6	85 (213) U	116 (244) t
17 (145) ctrl-Q	36 (164) \$	55 (183) 7	86 (214) V	117 (245) u
18 (146) ctrl-R	37 (165) %	56 (184) 8	87 (215) W	118 (246) v
		57 (185) 9	88 (216) X	119 (247) w
		58 (186) :	89 (217) Y	120 (248) x
		59 (187) ;	90 (218) Z	121 (249) y
		60 (188) <	91 (219) [122 (250) z
		61 (189) =	92 (220) \	123 (251) {
		62 (190) >	93 (221)]	124 (252)
		63 (191) ?	94 (222) ^	125 (253) }
		64 (192) @	95 (223) _	126 (254) ~
		65 (193) A	96 (224) `	127 (255) Delete
		66 (194) B	97 (225) a	
		67 (195) C	98 (226) b	
		68 (196) D	99 (227) c	

Why the <key> Command Yields Numbers

Many of the keystroke combinations available on a computer keyboard cannot be represented visually on the screen or in print. For example, there is no visual image generated when you press the Escape Key or type a Control-A. The difficulty associated with representing these non-printable characters led the computer industry to develop a standard numeric conversion system, called American Standard Code for Information Interchange (known by its acronym, ASCII). The ASCII system assigns a number to every key and key combination. Thus, the letter "A" generates a different value than a Control-A. *Figure 5* lists the numeric ASCII equivalent for every key combination available on the Apple keyboard. For example, the key combination Control-A has an ASCII value of 1. You will need this table when you write macros that use the <key> command.

Macros offers a <key> command, which waits for the user to enter a single keystroke and then captures the numeric value of that keypress. (The table in *Figure 5* lists the numeric value of every key combination. Also see the sidebar "Why the <key> Command Yields Numbers" for additional information about this concept.) When the user presses any key, even the Escape Key, UltraMacros recognizes that keystroke and proceeds with the macro. As I mentioned last month, the AppleWorks cursor does not flash while the <key> command is waiting for user input.

As with <getstr>, UltraMacros does not automatically remember responses to the <key> command; you must define a location to store the numeric value of the keypress. The statement `K = key` in the first line of macro Both-Apples-1 stores the keystroke in location "K".

Use <key> and <if> to Control Branching

Figure 4 depicts a series of macros that use the <key> command to capture the user's response and

Macro Primer...

the <if> command to control the flow of the macros. These macros are more sophisticated than those depicted in *Figures 1* and *2*.

The <msg> command in the Solid-Apple-Control-S macro in *Figure 4* asks you to press a single key and then transfers control to the macro Both-Apples-1.

The <key> command in the statement `K = key` then pauses the macro and waits for the user to press a key. It stores the numeric value of that keypress in location K.

The macro Both-Apples-1 uses a series of <if> statements that take different actions depending on the key pressed in response to the <key> command. If you press the Escape Key (which has a numeric value of 27), the macro terminates and returns you to AppleWorks. If you press an upper- or lower-case "Y" or "N", the macro either cancels the save or transfers control to macro Both-Apples-2 that creates the backup of your file. If you press any other key, Both-Apples-1 sounds the bell twice, displays a message reminding you to enter an acceptable keystroke, and returns to the beginning of the same macro. The logic of this UltraMacros program corresponds to that of the macros in *Figures 2* and *3*.

A Comparison of the <getstr> and <key> Commands

As indicated earlier, the macros in *Figure 4* gain their power by using the <key> command instead of <getstr>. There are three important differences between the <getstr> and <key> commands:

1. The <getstr> command can capture a series of characters; the <key> command only captures a single character.
2. The user must press the Return Key when entering text in response to a <getstr> command. You do not have to press Return when responding to a <key> command.
3. The AppleWorks cursor flashes while awaiting a response to the <getstr> command. The cursor does not flash during a <key> command.
4. The <getstr> command accepts a series of text characters; the <key> command always generates a number. That number is the ASCII value of the key you enter. This forces the UltraMacros programmer to store the responses to

<getstr> and <key> commands in different locations. UltraMacros stores text in locations \$1 through \$9 (the dollar sign signifies a "string" location). UltraMacros can store up to ten separate strings of text.

User input in response to the <key> command generates a number, and UltraMacros stores numbers in locations identified by any upper-case letter of the alphabet. UltraMacros can store up to 26 different numbers; one for each letter of the alphabet. You do not use a dollar sign to identify locations for numeric data. Thus, the entry in response to the <key> command in *Figure 4* is stored in location "K".

Conclusion

This month, I described how to use the <getstr> and <key> commands to capture user input and how to use the <if> and <goto> statements to write macros that branch depending on that input. Next month I will describe how to write macros that also accept input from the AppleWorks screen.

[Mark Munz, is the author of Late Nite Patches, SoftWorks, and several macros on the MacroTools disk.]

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Damaged AppleWorks Files: Why They Occur and How to Get Them Back

by Warren Williams and Cathleen Merritt

NAUG continues to receive letters from members who are unable to retrieve AppleWorks data files from their disks. The problem usually afflicts large data base files, but any AppleWorks file is vulnerable. Here are the most frequent causes of this problem and a few techniques to help recover your damaged or lost files.

Most AppleWorks data file problems can be attributed to one of two causes: either using an old, defective version of the ProDOS disk operating system, or by responding "Yes" to the AppleWorks prompt that asks if you want to delete the old version of the file from the disk before saving the new copy of the file.

Replace Your Old Version of ProDOS

Many disk access problems are caused by the old version of ProDOS that was provided with all copies of AppleWorks prior to version 2.1. Anyone who is using AppleWorks 2.0 or earlier should immediately replace the file "ProDOS" on their AppleWorks Startup Disk with a new version of ProDOS. The current version is ProDOS 8, version 1.7, but any copy of ProDOS 8 starting with version 1.4 or later should prove reliable. You can get a current version of ProDOS from any Apple dealer or from NAUG's Public Domain Library. In addition, every TimeOut enhancement includes the current version of ProDOS.

You can use any file copy program such as File-Master, Copy II+, or the file copy routines on an Apple System Disk to copy ProDOS onto your AppleWorks Startup Disk. The file copy program will warn you that the file already exists on the

AppleWorks disk. Ignore that warning and issue the command that replaces the old version of ProDOS with the new copy.

A Bug in AppleWorks 2.0 Damages Files

Unfortunately, not all damaged files are caused by problems with ProDOS. Version 2.0 of AppleWorks also has a bug that can make your valuable disk files unreadable. The problem is associated with the message that appears when you try to save a large file on a disk that is almost full. AppleWorks displays a message that asks if you want to make room on the disk by deleting the earlier version of the file. If you use AppleWorks 2.0, you should *always* respond "No" to this question; AppleWorks 2.0 occasionally damages the new file when you respond "Yes" to this prompt.

If you use AppleWorks 2.0, you can still save the new file on the disk, but you must first manually remove the earlier version of the file from the disk. Follow these steps:

1. Respond "No" to the "Do you want to delete this file?" prompt.
2. Press the Escape Key to return to the Main Menu.
3. Go to the Other Activities Menu and manually delete the earlier version of the file from the data disk.
4. Issue an Apple-Q command, return to the file, and issue an Apple-S command to save your work.

Novice Notes...

How to Recover Damaged Files

Unfortunately, neither of these recommendations helps you recover a file that is already damaged on the disk. Try these suggestions to recover a damaged file:

1. Format a blank disk and use a file copy program to copy the damaged file onto the new disk. Boot up AppleWorks and try to add that file to the AppleWorks desktop. This process rebuilds the disk catalog and sometimes gives you access to a previously unreadable file.
2. If you can load the file to the desktop, use the Apple-P command to "print" the file as an ASCII file onto your disk. Then tell AppleWorks you want to create a new file and indicate it is an ASCII file. This process removes unwanted control code characters that sometimes appear in AppleWorks files and makes the new file readable. See the article entitled "What AppleWorks Users Should Know about ProDOS Pathnames" in the November 1986 issue of the *AppleWorks Forum* if you need help responding to AppleWorks' "Pathname" prompt.
3. If it is a damaged data base file, get a copy of the TI&IE Data Base Repair Kit from NAUG's Public Domain Library (\$4, plus \$2 shipping and handling). Boot up this disk and follow the on-screen directions to recover the file.
4. Look on your disk for a file with the characters "TEMP" in the file name and try to load this

file onto your AppleWorks desktop. AppleWorks creates temporary disk files during the saving process; these files sometimes preserve your data. If you can retrieve this file, get the file on the desktop, issue an Apple-N command to change the file name, then save the file onto a new data disk.

5. Try RepairWorks, a new \$39.95 AppleWorks utility that recovers damaged AppleWorks data base and word processor files. RepairWorks is an easy-to-use, menu driven program recently introduced by Quality Computers ((800) 443-6697). NAUG will review RepairWorks in a forthcoming issue of the *AppleWorks Forum*.
6. Use the utility program Bag of Tricks #2 to try to recover the file or re-create the disk directory. Step-by-step directions to help you recover files with Bag of Tricks appear in the January 1987 issue of the *AppleWorks Forum*. Bag of Tricks #2 was developed by Quality Software (no relation to Quality Computers) and is available from Roger Coats and other mail order vendors.

One or more of these techniques should recover your important data file.

[Warren Williams teaches in the Educational Technology program at Eastern Michigan University. He is a technical advisor to NAUG and a frequent contributor to the AppleWorks Forum.]

Rate Change Notice

New shipping options permit NAUG to lower the price of surface mail to our members outside North America. Effective immediately, the rate for surface mail delivery outside of North America is reduced to \$12 annually. Members who paid a \$20 supplement for surface shipping will receive a credit of 67¢ per month starting with the current issue of the newsletter. Note that there is no change in the rates for air mail delivery.

Corrections

There is an error in Figure 2B on page 12 of the February issue. Correct the first line of the macro to read:
W:<all : oa-q : esc : rtn>3<rtn : rtn :

The Public Domain Update that appeared in the January 1989 issue incorrectly identified the source of NAUG's newest fonts disks. Bruce Shanker donated fonts disks 10 and 11 to the NAUG Public Domain Library.

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Chinook CT-20 20Mb hard disk system \$700; CT20c (for Apple IIc): \$700; CT30 30Mb: \$775; CT40 40Mb: \$875. All systems include SCSI interface, EasyDrive software, and shipping. Charlie's AppleSeeds; 9081 Hadley Place; San Diego, CA 92126; (619) 566-0387.

New Disks Added to NAUG's Public Domain Library

by John Denzer

NAUG recently added the following disks to its library of AppleWorks enhancements and files:

SuperPatch 3.1: SuperPatch 3.1 is an easy-to-use, menu-driven program that installs and removes 30 AppleWorks patches. These patches include: (a) Skip the Space Bar prompt when booting AppleWorks, (b) automatically enter the date at bootup, (c) change the default cursor to overstrike instead of insert, (d) allow Control-@ printer codes in AppleWorks 2.0, (e) eliminate automatic pre-loading of AppleWorks into memory expansion cards, (f) allow up to 255 printed copies of a document or report, (g) allow up to 116 files in a subdirectory, (h) leave room on Apple and RamFactor memory cards for a RAM disk, (i) retain original cursor position when loading a word processor file, (j) delete extra Carriage Returns when printing an ASCII file to disk, (k) blank cells in the spreadsheet instead of displaying NA, (l) don't mark a file as changed when it is printed, (m) print half-height characters with an ImageWriter II, and seventeen other AppleWorks modifications.

SuperPatch 3.1 is compatible with AppleWorks 2.0 and 2.1. The SuperPatch disk includes comprehensive documentation and ProDOS 8 version 1.7 enhanced with Bird's Better Bye Program Selector.

SuperPatch 3.1 is shareware. The author, John Link, asks you to remit \$5 if you use the program. Our thanks to Chuck Newby for submitting this disk to the NAUG Public Domain Library.

FrEdBase: FrEdBase (Free Educational Data Base) is a public domain data base program that handles up to 18 categories, offers two levels of sorting, two selection rules, and tables and labels format reports. FrEdBase also allows rudimentary statistical analysis and graphic output of numeric data.

The program imports ASCII (text) files; users can import data from AppleWorks data base files to create a FrEdBase file. FrEdBase comes on two 5.25-inch disks, and costs \$8 for the set. The program is written by Greg Butler and was submitted to NAUG by Margaret Johnson.

Suicide Prevention Disk: This disk contains 11 AppleWorks word processor files with information to help schools and social service agencies respond to individuals contemplating suicide. Articles address: How to staff a crisis line, what to say and ask when counselling, why people want to commit suicide, and other valuable information. The second side of the disk contains the same files translated into Spanish and information about how to generate Spanish output from an ImageWriter II printer. This disk was developed and donated to the NAUG public domain library by "Suicide Prevention Resources", a New York-based organization.

ListWorks: This stand-alone application lets AppleWorks users print 3-across mailing labels and get 3-column output from any ASCII (text) file. The user "prints" the AppleWorks file to an ASCII file on a disk, then uses ListWorks to print the output in column format. ListWorks is shareware; the program's author, Andrew Mackie, asks that users submit \$10 to the United Methodist Committee on Relief. This is a self-booting disk and includes ProDOS 8, version 1.7 enhanced with Bird's Better Bye Program Selector.

Invoice Manager: This powerful set of spreadsheet templates automate the production of invoices on plain paper or on pre-printed forms. Invoice Manager lets you integrate your billing with a data base of clients and purchases. The disk makes extensive use of macros and includes a run-time version of UltraMacros for users who do not have

Public Domain Library...

that popular AppleWorks enhancement. The files on this disk are complex and will take a while to learn, but once mastered, they offer a comprehensive invoicing system.

Invoice Manager is shareware. The author, Robert Martz, requests a payment of \$10 if the user finds the disk useful.

Mind Teasers: This disk includes two sides of word processor files filled with questions and brain teasers. You can use the puzzles in these files to test your mental agility or to enliven quizzes you give to others. The disk includes answers to all the puzzles, but no fair peeking! Richard Reed, the author of Mind Teasers, submitted this disk to NAUG.

Amortization: A sophisticated set of templates that determine the periodic payment, term, and Annual Percentage Rate of a loan. The templates require TimeOut UltraMacros. The elegance of these templates should interest all high-level spreadsheet users. Developed and submitted by A. D. Gilchrist of Monroe, Louisiana.

How to Obtain These Disks

Unless otherwise noted, each public domain disk costs \$4, plus \$2 per order for shipping and handling. Send your order to NAUG, Box 87453, Canton, MI 48187.

[John Denzer is a teacher in the Hartland (MI) Public Schools and is NAUG's Public Domain Librarian]

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How to Use the Extra Space on Your AppleWorks Disk

by Bruce Shanker

If you teach AppleWorks, you probably appreciate any suggestions that let you reduce the number of disks you have to manage. Here are three techniques I use to reduce the number of disks my students use as they work with their TimeOut-enhanced copies of AppleWorks.

If you use 5.25-inch disks: Copy the TimeOut modules onto the AppleWorks Startup Disk. Students can flip the disk back to the Startup side when AppleWorks is ready to load the TimeOut modules. This procedure eliminates the need for a second disk containing the TimeOut modules.

If you use 3.5-inch disks: Copy the TimeOut modules onto the 3.5-inch AppleWorks Program Disk; you can fit many TimeOut enhancements onto that disk. This makes it unnecessary for students to swap disks when they boot up AppleWorks from the 3.5-inch disk.

Finally, here is a technique I use to squeeze more TimeOut modules or data files onto an AppleWorks disk:


Every copy of AppleWorks includes the files SEG.RM, SEG.XM, and SEG.00. SEG.RM is only used on the Apple IIGs. SEG.XM is only used on Apple IIe's equipped with Apple memory cards or Applied Engineering RamFactor cards, or Apple IIc's equipped with Apple expanded memory cards. SEG.00 is used on all other systems including unenhanced Apple IIc's, IIc Plus', and all IIe's not equipped with Applied Engineering or Apple peripheral slot memory cards.

Every computer uses only one of these three files. For example, the Apple IIGs only uses the file SEG.RM.

Most AppleWorks users leave all three files on their AppleWorks disk, but you can delete the two you don't need and save some disk space. For example, if you work with an Apple IIGs, you can delete the files SEG.XM and SEG.00 from your copies of AppleWorks. Similarly, you can delete the files SEG.RM and SEG.XM if you use AppleWorks on an Apple IIe equipped with an Applied Engineering RamWorks card. This lets you squeeze more TimeOut modules onto the AppleWorks disk.

SEG.RM, SEG.XM, and SEG.00 are each 4K in size, so you recover 8K on your AppleWorks disk that you can use for TimeOut applications.

[Bruce Shanker is a mathematics teacher at Kensington High School in Philadelphia, Pennsylvania. Bruce is one of NAUG's "Beagle Buddies".]



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A Patch to Keep a File Marked "Unchanged" after Printing

by Mark Munz

As an experienced AppleWorks user, you know to save your work before printing a document. That protects your text if anything goes wrong during the printing process. However, if you try to quit AppleWorks after printing, AppleWorks tells you that the document you just printed was changed and asks if you want to save your changed file. Of course, the text in your file was not changed; only the calculation and insertion of page breaks are changed in the file.

Here is a patch that tells AppleWorks 2.0 or 2.1 not to mark a file as changed after you print the document or use the Apple-K command to calculate page breaks. As always, install this patch on a copy of your working AppleWorks disk.

Follow these steps to install the patch:

1. Prepare a disk that contains only the files ProDOS and BASIC.SYSTEM.
2. Prepare a copy of your working AppleWorks Program Disk.
3. Boot your computer with the ProDOS/BASIC.SYSTEM disk. You will see the BASIC prompt (J).
4. Replace the ProDOS/BASIC.SYSTEM disk with the copy of the AppleWorks Program Disk.
5. Type the following and press the Return Key at the end of each line:

```
POKE 768,234
POKE 769,234
POKE 770,234
```

If you have AppleWorks 2.0, type the following and press the Return Key:

```
BSAVE SEG.M1,TO,A768,L3,B$A119
```

If you have AppleWorks 2.1, type the following:

```
BSAVE SEG.M1,A768,L3,B$A19D
```

Once you install this patch, you will no longer be told a file is changed after you issue an Apple-P or Apple-K command. You should notice no other change in AppleWorks.

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How to Get Help with the AppleWorks Modules

by William Marriott

Each month, the *AppleWorks Forum* lists the member-volunteers who offer technical support for AppleWorks products. This month's list identifies the volunteers who can answer questions about the AppleWorks modules. Next month's issue will contain a list of members who offer help with hardware questions.

AppleWorks Modules

How to Use This List

To the left of each volunteer's name are numbers that indicate the AppleWorks modules the consultant supports. Volunteers are listed alphabetically by state.

- 1 = Word Processor
- 2 = Data Base
- 3 = Spreadsheet
- 4 = Integration between modules

Alaska

	City	Work #	Home #
1,2,3,4	Ross Lambert	Unalakleet	907/ 624-3161 -

Alabama

1,2,3,4	Rebecca Cathey	Eutaw	- 205/ 372-3581
---------	----------------	-------	-----------------

Arizona

1,2,3,4	Jeff Cox	Tucson	- 602/ 297-0308
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California

1,2,3,4	Michael Beebe	San Diego	619/ 224-8823 619/ 221-2363
1,2	Stephen Brewer	San Bernardino	- 714/ 882-3308
1,2,3,4	Robert Demmon	Coronado	- 619/ 435-0520
1,2,3	Donna Ewing	Costa Mesa	- 714/ 556-3169
1,2	Don Farrar	Pleasant Hill	- 415/ 932-5509
1,2,3,4	Dave Gair	Los Angeles	213/441-6100 213/988-0994
4	George Gray	Los Angeles	- 213/ 774-4131
1,2,3,4	Terry Higgins	Hayward	415/ 887-7499 -
1,2,3,4	Jane Hsuan	Nevada City	- 916/ 272-8497
1,2,3	Alan E. Kahn	San Anseimo	415/ 457-9827 -
1,2,3	Berenice Maltby	Corona del Mar	714/ 640-7369 -
1,2,3,4	Tom Militello	Palos Verdes	- 213/ 541-2766
1,2,3	Will Nelken	San Rafael	415/ 456-1798 415/ 459-0845
1,2,4	Jim Pennington	Long Beach	- 213/ 420-8629

Colorado

1,2,3,4	Gary Armour	Littleton	- 303/ 933-9493
1,2,3,4	Steve Feldman	Denver	303/ 428-6115 -
1,2,3,4	David Gillaspie	Lakewood	303/ 431-6100 303/ 988-0994

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1,2,3,4	Lyle Graff	Littleton	303/ 977-4557 303/ 794-5970
3	Harry McMullen	Littleton	- 303/ 795-5510
1,2,4	Carol McPeck	LaSalle	303/ 284-5508 -
1,2,3,4	Larry Thaete	Boulder	303/ 492-2717 303/ 939-9072

Connecticut

1,2,3,4	Martin Knight	Middletown	- 203/ 346-9698
1,2,4	John R. Robinson	Niantic	203/ 739-7435 -
1,2,3,4	Emery Roth	Washington	- 203/ 868-7118
1,2	Newton Shaffer	Gales Ferry	- 203/ 464-9716

Florida

1,2,3,4	John Andrianoff	Ft. Pierce	- 305/ 466-6653
1,2,3,4	H. Clay Bailey III	Jacksonville	904/ 725-3477 904/ 744-2499
1,2,3,4	Ann F. Bennett	Orlando	407/ 843-0545 -
1,2,3,4	Thomas Stanlius	Opa Locka	305/ 375-2095 305/ 624-6162
1,2,3,4	Jeff C. Strichard	Ft. Lauderdale	305/ 763-3883 305/ 587-9590

Georgia

1,2,3,4	Jim Sulsona	Doraville	- 404/ 455-0853
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Iowa

1,2,3,4	Roger Christian	Iowa City	319/ 337-2189 319/ 338-7350
1,2,3	Dan York	Marion	319/ 373-2083 319/ 373-1883

Illinois

1	Michael Artery	Clarendon Hills	- 312/ 986-1128
1,2,3,4	Sharon De Kirmandjian	Libertyville	- 312/ 680-1974
1,2,4	J. Terry Flynn	Lake Bluff	312/ 680-0980 312/ 234-2820
1,2,4	Connie Peters	Decatur	217/ 875-2431 217/ 429-6242
1,2,3,4	Dennis Ricke	St. Charles	312/ 377-4829 -
1	Walter Schillinger	Oak Park	312/ 451-3000 312/ 386-2278
1,2,3,4	Bowen Schumacher	Winnetka	212/ 546-0633 312/ 501-3314
1,2,3,4	Michael Warner	Glenn Ellyn	312/ 790-0330 312/ 469-2543
1,2,3,4	Victor Weisskopf	Lincolnwood	312/ 674-7400 -

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1,2,3,4	Brenda Crenshaw	Shelbyville	317/ 264-1286 317/ 398-0525
1,2,4	Irvine Haas	Carmel	- 317/ 848-0050
1	Mark Hochstetler	Indianapolis	317/ 783-8821 317/ 299-3156

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1,2,3,4	Dick Fogliasso	Girard	316/ 724-4590 316/ 724-4330
1,2,4	Jan Laughlin	Mapleton	316/ 743-3441 -
2,3	Marcia Philbrick	Seneca	913/ 336-3557 913/ 336-3645

Kentucky

1,2,3,4	Rosalie Lasee	Richmond	606/ 622-1986 -
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AppleWorks Modules...

		City	Work #	Home #
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2,3	Richard Nash	North Reading	617/ 664-5400	-
1,2	Jeff Weisenfreund	Newton	-	817/ 965-028

Maryland				
1,2,3,4	Ron Jacobs	Laurel	-	301/ 498-0558
1,2,4	Morgan Jopling	Crofton	-	301/ 721-7874
2	David Ottalini	Silver Springs	-	301/ 681-5792
1,2,3,4	Ronald Romanowicz	Glencoe	301/ 472-4800	301/ 472-2983
1,2,3,4	Michael Spurrier	Baltimore	301/ 955-5938	301/ 298-0263

Michigan				
1,2,3,4	Dawn Andrews	Muskegon	-	616/ 755-4308
1,2,3,4	Jim Anker	Hazel Park	313/ 542-3910	313/ 391-0033
2,3,4	Joe Connelly	Livonia	313/ 421-8729	-
1,2,3,4	Arthur Daniel	Warren	313/ 445-7142	313/ 445-7105
1,2,3,4	Jane Harris	Grand Rapids	-	616/ 458-2653
1,2,3,4	Lynn Leininger	Monroe	-	313/ 241-4021
1,2,3,4	Bill Neef	Grass Lake	517/ 522-4889	-
1,2,3	J. O'Connor	Rochester	313/ 853-1260	-
1,2,3,4	Quality Computers	Grosse Pointe	313/ 885-4270	313/ 885-4215
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1,2,3,4	James Hirsch	Coon Rapids	612/ 422-5572	612/ 421-8393
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1	Penelope Krosch	Stillwater	-	812/ 436-5405

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1,2,3	Lynn Leopard	Chillicothe	816/ 846-0702	816/ 646-4196

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1,2,3	Esther Hamel	St Ignatius	406/ 745-4455	-
1,2,3	Bob Shipek	Great Falls	406/ 791-2130	406/ 452-9104

North Carolina				
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2	Edwin C. Doe	Pt. Pleasant	-	201/ 528-6349
1,2,3,4	David Edwards	Camden	609/ 966-6767	609/ 365-1359
1,2	Matthew Jones	Neptune	-	201/ 774-0983
1,2,3,4	Link Keur	Augusta	201/ 992/7000	201/ 875-2568
1,2,3	Linda Nixon	Chatham	-	201/ 635-0973
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1,2,3,4	William Beasley	N. Olmsted	216/ 777-7700	216/ 933-4408
1	Mark Elliot	Hudson	216/ 886-2280	216/ 653-5006
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1,2,3,4	Robert Netro	Canton	216/ 477-3667	-
3	Bill Ries	Cincinnati	513/ 941-7831	513/ 941-7933
1,2,3,4	Patricia Ritchey	Bowling Green	419/ 372-7038	419/ 673-0040
1,2,3,4	Matiwyne Winton	Stockport	-	614/ 559-2816

Oregon				
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1,2,4	David Chesebrough	Sewickley	-	412/ 241-5129
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1,2,3,4	Ron Franzetti	Austin	-	512/ 331-8061
2	Jeff Holcomb	Carrollton	-	817/ 465-7978
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1,2,3,4	Ralph Logan, Jr.	Fort Worth	817/ 281-0661	-
1,2,3,4	Bob Oberholtzer	Houston	713/ 664-2011	713/ 664-1795

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1,2,4	Tiny Laster	Hampton	804/ 766-3969	-
1,3	William W. Sanderson	Merrifield	703/ 820-8550	703/ 352-1568

Vermont				
1	Lars Baris	Essex Jct.	802/ 878-1392	-

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Through March 31, NAUG members can purchase an Apple II-compatible optical mouse from MSC Technologies at special discount prices. (An optical mouse has no moving parts and allows more precise cursor control than a mechanical mouse.)

The company manufactures two mice. The "A+ Mouse" for Apple IIc, IIc Plus, and Laser computers lists for \$99 and is available to NAUG members for \$55. The "ADB Mouse" for Apple IIGS systems lists for \$129, and costs NAUG members \$70.95. Apple IIe owners need a mouse interface card (not included with this offer) and the A+ Mouse. Send NAUG a self-addressed, stamped envelope and request the "MSC Technologies Order Form".

Other Offers for NAUG Members

CompuServe: NAUG members can get a free CompuServe account and a \$15 credit toward their CompuServe usage. Call (800) 848-8199 and ask for representative #92.

TransWarp Card: Through March 31, NAUG members can purchase an Applied Engineering TransWarp accelerator card for \$149. The TransWarp card lists for \$219 and is compatible with the

Apple IIe and II+ computers. Order from Roger Coats ((800) 438-2883, or (619) 274-1253 in California) or Quality Computers ((800) 443-6697, or (313) 331-0700 in Michigan).

Zip Chip: Zip Technology offers NAUG members a 25% discount on its Zip Chip accelerator. The regular price of a Zip Chip is \$179; NAUG members can purchase a chip directly from the manufacturer for \$135. Call Zip Technology at (800) 628-3278. Offer valid through March 31, 1989.

Data Tracker: Data Trackers are disk envelopes with space for information about your files. NAUG members can purchase ten Data Tracker envelopes for \$2, plus 50¢ postage. Contact Chirp's Chips, 6S235 Steeple Run, Suite 12, Naperville Illinois 60540 (312) 961-2791.

Font Printouts: Richard Melpignano printed a sample of every font in NAUG's Public Domain Library. He supplies printouts of single fonts for 50¢ per font or the complete 161 pages of output for \$14. Write to: Richard Melpignano, Box 119, Bellingham, Massachusetts 02019.

AppleWorks Command Tree: NAUG members can obtain a laminated chart of the AppleWorks commands for \$6.95. Ten charts cost \$49.50. Indicate the version of AppleWorks you use and send payment to M. Kenneth Johnson, 2802 Nelson Rd., Marshalltown, Iowa 50185.

Electronic Index Disk Update

The list to the right contains the March 1989 update for NAUG's Electronic Index Disk. If you have more than 128K of RAM, enter the data into the file "Forum Index.All". If you have a 128K system, enter data into the file "Forum Index.III". Enter the new key words into the file "Key Words".

NAUG updates the Electronic Index Disk monthly. The latest version can be ordered from the NAUG Public Domain Library (\$4 per disk; \$2 postage per order). Current updates can also be downloaded from the NAUG bulletin board, (313) 482-8090.

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 Hard Disk Primer • 9 • An Introduction to AppleWorks and Hard Disks • Morrison, Gary R. • Hard Disks; 3.5-inch drives; hardware
 Hard Disk Primer • 10 • Expanded memory, 3.5-inch Disks; and Hard Disks: Which Are for You? • Morrison, Gary R. • hard disks; RAM; memory cards; hardware; 3.5-inch disks
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3. Articles: Articles are generally two to five double-spaced pages long. Members whose articles are published in the *AppleWorks Forum*, receive a one-year extension to their NAUG membership.

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Seminar Schedule

NAUG sponsors AppleWorks seminars in various locations throughout the country. These seminars, entitled "AppleWorks: Beyond the Basics", are intended for AppleWorks users who want to solve AppleWorks problems and learn new techniques.

Seminar schedule:

March 1	—	Atlanta, GA
March 3	—	Miami/Ft. Lauderdale, FL
March 6	—	Orlando, FL
March 7	—	Tampa, FL
March 16	—	Chicago, IL
March 17	—	St. Louis, MO
April 7	—	Smythtown, Long Island, NY
April 10	—	Islin, NJ (Newark)
April 12	—	College Park, MD
April 17	—	Kalamazoo, MI
April 19	—	Southfield, MI (Detroit)
April 24	—	Columbus, OH
April 25	—	Cincinnati, OH

The presenter, Dr. Warren Williams, is a technical advisor to NAUG and a frequent contributor to the *AppleWorks Forum*. He has written more than 60 articles about AppleWorks and has conducted more than 75 AppleWorks seminars throughout the country. Write or call NAUG for more information.